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THERMOPLASTIC PAVEMENT MARKING APPLICATOR WITH AUTOMATIC PRE-MELTER CONVERSION OPTION

1. **SCOPE**: It is the intent of these specifications to describe the minimum requirements for a hand propelled applicator suitable to extrude and pre-melt thermoplastic pavement markings with a temperature control system and can supplied with or later be converted to combine a melting apparatus.

Empty Weight	Material Capacity	Maximum Dimensions
250 lbs.	250 lbs.	48"L X 39"W X 31"H

2. **INSTALLATION PERFORMANCE:** The unit shall be capable of properly melting while installing every type of thermoplastic pavement marking application (longlines, skips, messages, arrows, etc…)

3. **MATERIAL HOLDING TANK:** The tank shall be all aluminum construction and must have a one-quarter inch thick oval bottom and one-quarter inch thick straight wall sides (a vertical pot is not acceptable). The outer rectangular aluminum skin shall be insulated and have ten heat vents to allow for proper ventilation of burner gases. There shall be two hinged rectangular doors covering the material holding tank. A removable screen shall be provided to filter out foreign material during molten thermoplastic kettle transfer.

4. **EXTERIOR CONSTRUCTION:** The unit shall be all aluminum construction where the front houses the material holding tank and the rear a 20 pound LPG fuel tank with proper safe heat controls. The fuel tank compartment shall be open to allow for maximum air circulation. The fuel bottle shall be held securely by means of an upper clamp. There shall be three lifting rings located on the machine to allow for ease and safe lifting of the empty machine. A door in the outer skin shall allow for access to the burner chamber for lighting.

   The applicator shall ride on three wide airless tires, mounted in such a fashion as to allow one operator easy drag-free propulsion. Both the front and rear axles of the machine shall be made of stainless steel.

5. **HAND CONTROLS:** A handle, located on the left side, shall enable the operator to keep material agitated during operation. Two lever handles shall be located alongside on the right and easily controlled with a single hand, the outside lever opens and closes material valve and the inside lever activates the extrusion die and bead dispenser.

   A single speed and parking hand brake, located on propulsion handle, shall be provided to prevent the applicator from moving while being refilled and to slow its speed when traveling down steep terrain.

6. **HEATING SYSTEM:** Two jet ring burners, with a minimum total of 30,000 BTU rating per hour, shall be mounted in a compartment under the molten tank for maintaining thermoplastic material at proper melting and application temperatures.

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A pilot generator lighting system control with electronic igniter shall be located under the front of fuel tank compartment with the pilot easily accessed behind an observation door to enhance operation safety. The material shall be controlled by means of an automatic temperature control system, mounted on the aft wall facing the operator, designed to melt and maintain material temperatures between 400F and 450F, monitored by a thermocouple that is positioned in the material holding tank. An aluminum heat and windshield shall be mounted on the applicator's right to cover the extrusion die. It shall contain a single, 11-inch by 7-inch, radiant heater to direct heat on the die and material valve. The side of the shield shall full swing open for easy access to the extrusion die. Open flame heating directly attached to die is unacceptable.

Each heater shall have an independent gas line and regulator to provide maximum fuel economy and operation safety.

7. **POINTER SYSTEM:** The applicator shall be equipped with a heavy-duty pointer system indicating the location of applying the thermoplastic pavement marking. The pointer shall be adjustable left or right and freely swivel up and down under spring tension, holding any position without requiring hand adjustment or bolting.

8. **EXTRUSION DIE SYSTEM:** The heat shield must contain a knob-control height adjustable spring-activated extrusion die hanger bar. The extrusion die shall automatically interlock and disconnect from the heat shield without the need of a separate bolt or connecting rod. The connected extrusion die shall be completely height and angle adjustable by means of a hand rotatable knob located on top of the heat shield. A properly secured and adjusted die shall be capable of accomplishing a true, straight thermoplastic line.

   The heat shield shall accommodate various width extrusion dies from 4" to 12". The extrusion die shall receive material from the molasses valve while in the user's direct view. The lines will be squarely started and stopped by means of a swing door operated by dual, fast closure, heat shielded springs. The die shall contain tungsten carbide protected runners to ensure long wearing on road surfaces.

   The die shall open to the width of the line and to a minimum of 7/8 inch away from the die trough, exposing the road surface for maximum application adhesion and speed.

   All die parts shall be high temperature and rust resistant metal. Furnished with the applicator shall be a full assortment of 4", 6", 8", and 12" width dies.

9. **BEAD DISPENSING SYSTEM:** The applicator shall be equipped with one stationary variable width bead dispenser, aligned directly behind the die, capable of evenly dispensing through a front driven, rotating stainless steel knurled shaft, six pounds of glass spheres per hundred square feet over and within 6 inches of the deposition of the molten thermoplastic extruded line not withstanding the speed of the thermoplastic application. This bead dispenser shall be quickly adjustable to apply 4", 6", 8", 10" or 12" width even distribution of glass spheres. In order to prevent wasted bead droppings, the knurled shaft shall not rotate one half inch wider than the thermoplastic line width.

   The bead reservoir shall be aluminum constructed to hold a minimum of 50 pounds of glass spheres.

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10. **PRE-MELTING CONVERSION FEATURE:** The hand applicator supplied shall have a pre-melting upgrade conversion feature, whereas the unit can become an all-in-one, thermostat controlled, combination hand-propelled applicator and premelter. The entire system upgrade shall be made available and packaged with installation procedures.

11. **TRAILER:** An enclosed trailer of sufficient capacity with ramp and winch for easy loading shall be included for transporting the applicator.

12. **GENERAL:** Two copies of the instruction manual, operation manual, and parts book for the applicator and accessories shall be supplied. When delivered, the unit shall be completely assembled and ready to operate except for fuel bottle and fuel.

13. **DELIVERY:** The unit shall be delivered within 30 days of receipt of written purchase order.